IN THE CLAIMS

1. (Currently Amended) A method for enhancing light microscope viewing of a light-illuminated specimen having a thickness exceeding the depth of focus of the viewing microscope to suppress imaging of objects which are displaced and out of focus with respect to a focal plane of interest, comprising the steps of:

(1) obtaining a plurality of images of said focal plane of interest at the specimen in which said images are taken at different angles of specimen illumination relative to each other; and

(2) applying a computerized emulation algorithm for cross-correlating information obtained from the angled views by suppressing information that is not common to each angled view and substantially retaining information for said plane that is common for all angled views, whereby to produce a single output image for the said focal plane of interest to define a confocal emulated image.

2. (Previously presented) The process of claim 11 further comprising the additional step of:

(3) stacking the plurality of confocal emulated images to produce a three-dimensional reconstruction of the specimen.

3. (Canceled)

4. (Previously presented) The method of Claim 11 wherein, in step (1), each image is obtained on a surface comprising a regular arrangement of pixels, each pixel capable

of representing absorbed light so that information on both the frequency and intensity of the light absorbed is computer readable.

5. (Previously presented) The method of Claim 4 wherein, in step (2), the information cross-correlated comprises light frequency information and intensity absorbed by each pixel.

6. (Previously presented) The method of Claim 5 wherein the cross-correlation comprises a cross correlation of information between a linearly arranged sequence of pixels from each image, the sequences at least partially overlapping.

7. (Previously presented) The method of Claim 6 wherein the cross-correlation will, for purposes of constructing a confocal emulated image, score as undesirable that specific image information that is displaced in one image relative to the other and will score as desirable that specific image information that is not displaced in one image relative to the other, and further for purposes of constructing a confocal emulated image will tend to retain desirable information and to eliminate undesirable information.

Claims 8-10 (Canceled)

11. (Previously presented) A method in accordance with Claim 1, wherein said method is applied at a plurality of planes defining the thickness of said specimen, to thereby define a plurality of confocal emulated images.

12. (Currently Amended) A tomographic microscope for enhanced viewing of a light-illuminated specimen having a thickness exceeding the depth of focus of the viewing microscope which suppresses imaging of objects which are displaced and out of focus with respect to a focal plane of interest, comprising:

means for illuminating said specimen at different angles of illumination relative to each other;

means for obtaining a plurality of images of said focal plane of interest at the specimen, in which said images are taken at said different angles of specimen illumination relative to each other; and

means for cross-correlating information obtained from the angled views by applying a computerized confocal emulation algorithm to ~~suppressing~~ suppress information that is not common to each angled view while substantially retaining information for said plane that is common for all angled views, whereby to produce a single output image for the said focal plane of interest to define a confocal emulated image.

13. (Previously presented) A tomographic microscope in accordance with Claim 1, further including means for obtaining said plurality of images for a plurality of focal planes of interest defining the thickness of said specimen to thereby define a plurality of confocal emulated images.

14. (Previously presented) A tomographic microscope in accordance with Claim 13, further including means for stacking the plurality of confocal emulated images to produce a three-dimensional image reconstruction of the specimen.